

DMITRIYEVSKIY, Andrey Aleksandrovich; KOSHEVOY, Vsevolod Nikolayevich;
KISELEV, S.P., red.; MEDNIKOVA, A.N., tekhn. red.

[Physical foundations of rocket flight] Fizicheskie osnovy po-
leta raket. Moskva, Voenizdat, 1962. 77 p. (MIRA 15:9)
(Rockets (Aeronautics)) (Space flight)

KISELEV, Sergey Petrovich, inzh.-polkovnik; NECHAYEV, Yu.N., red.;
SHAROGORODSKIY, S.G., red.; MEDNIKOVA, A.N., tekhn. red.

[Aerodynamics of rockets] Aerodinamika raket. Moskva, Voen-
izdat, 1962. 93 p. (MIRA 15:6)
(Aerodynamics) (Guided missiles)

PHASE I BOOK EXPLOITATION

SOV/6174

Kiselev, Sergey Petrovich, Engineer-Colonel

Aerodinamika raket (Rocket Aerodynamics) Moscow, Voenizdat, 1962.

93 p. (Series: Za voyenno-tekhnicheskiye znaniya. Raketnaya tekhnika) 15,000 copies printed.

Eds.: Yu. N. Nechayev and S. G. Sharogorodskiy; Tech. Ed.: A. N. Mednikova.

PURPOSE: This book is intended for soldiers, sergeants, students in military schools, and a general audience of civilians interested in rocket aerodynamics.

COVERAGE: The fundamental laws of aerodynamics are expressed in layman's terms, as well as the characteristics of rocket flight at subsonic and supersonic velocities. The concepts of aerodynamic control of rockets, the control units used, the stabilization of rockets, and their dispersion in the impact area are given. Experimental methods of testing rockets are described briefly.

Card 1/2

Rocket Aerodynamics

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722810010-0

SOV/6174

No personalities are mentioned. There are 12 references, all Soviet.

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Ch. I. Fundamentals of Theoretical Aerodynamics	7
Ch. II. Experimental Aerodynamics	52
Ch. III. Aerodynamic Forms and Designs for Rockets	69
Ch. IV. Rocket Stabilization and Guidance, and Their [Impact] Dispersion	80
Bibliography	92
AVAILABLE: Library of Congress	

SUBJECT: Aerospace

Card 2/2

AD/dmp/mas
2-13-63

MOROZOV, Konstantin Vasil'yevich, inzh.-polkovnik; KISELEV, S.P.,
red.; SOKOLOVA, G.F., tekhn. red.

[Wingless rockets] Beskrylye rakety. Moskva, Voenizdat,
1962. 77 p. (MIRA 16:1)
(Rockets (Ordnance))

KISELEV, Sergey Petrovich, inzh.-polkovnik; CHUYEV, Yuriy Vasil'yevich,
~~inzh.-polkovnik~~; SOKOLOV, I.A., polkovnik, red.

[Dispersion of rockets] Rasseivanie raket. Moskva, Voenizdat,
1964. 85 p. (MIRA 17:5)

DMITRIYEVSKIY, Andrey Aleksandrovich; KOSHEVOY, Vsevolod Nikolayevich;
KISELEV, S.P., red.

[Fundamentals of the theory of rocket flight] Osnovy teorii
poleta raket. Moskva, Voenizdat, 1964. 310 p. (MIRA 18:2)

ALESHKOV, M.N., st. nauchn. sotr., kand. tekhn. nauk, inzh.-
polkovnik; ZHUKOV, I.I., prof., doktor tekhn. nauk,
general-mayor; KATKhanov, M.N., doktor tekhn. nauk,
dots., inzh.-polkovnik; VYSKUBOV, B.R., inzh.-polkovnik;
KUKUSHKIN, D.D., kand. tekhn. nauk, polkovnik; MARKOV,
O.P., dots., kand. tekhn. nauk, inzh.-podpolkovnik;
SAVIN, N.V., inzh.-polkovnik; SMIRNOV, A.D., inzh.-
podpolkovnik; FOMIN, Yu.G., kand. tekhn. nauk, inzh.-
polkovnik; KISELEV, S.P., inzh.-polkovnik, red.

[Physical principles of rocket weapons] Fizicheskie osnovy
raketnogo oruzhiia. Moskva, Voenizdat, 1965. 463 p.
(MIRA 18:7)

KISELEV, Sergey Petrovich; DMITRIYEVSKIY, A.A., doktor tekhn.
nauk, retsenzent

[Rocket in the aerial ocean] Raketa v vozdushnom okeane.
Moskva, Mashinostroenie, 1965. 107 p. (MIRA 18:11)

ACC NR: AM6003000

Monograph

UR/

Kiselev, Sergey Petrovich

The rocket in an ocean of air (Raketa v vozdušnom okeane) Moscow, Izd-vo "Mashinostroyeniye," 1965. 107 p. illus., biblio. 38,000 copies printed.

TOPIC TAGS: ballistic missile, missile velocity, missile flight, experiment aerodynamics, subsonic aerodynamics, supersonic aerodynamics

PURPOSE AND COVERAGE: This book is intended for a wide range of readers. It describes the flight of winged and ballistic missiles and discusses the aerodynamics of subsonic and supersonic velocities.

TABLE OF CONTENTS [abridged]:

What is said in this book -- 3

Ch. I. Basic laws of aerodynamics -- 7

Ch. II. Aerodynamic forces -- 30

Ch. III. Problems in experimental aerodynamics -- 52

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UDC: 629.136.3(023)

ACC NR: AM6003008

Ch. IV. Supersonic flight velocities -- 67

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Conclusion -- 105

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SUB CODE: 16, 20 / SUBM DATE: 30Aug65/ ORIG REF: 009/
OTH REF: 002

Card 2/2

KISELEV, S.S.

Machining sprockets on a gear-cutting machine. Bum.prom.31 no.12:23
D '56. (MIRA 10:2)

(Balakhna--Papermaking machinery)

KISELEV, S.S.

Special dividing head. Bum. prom. 31 no.11:24 N '56.

(MLBA 10:2)

1. Inzhener-mekhanik Balakhninskogo tsellyulozno-bumazhnogo kombinata.

(Balakhna--Machine tools--Attachments)

ARKHAROV, V. I.; KISELEV, S. T. ; PITADE, N. A.

The Conditions for the Evolution of Lathoid Fracture in Steel

Trudy IFM UFAN, 8th Edition, 50, 1946

20

PROPERTIES AND PROPERTIES INDEX

9

Separation of carbides during tempering of quenched alloy steel. V. I. Arkharov and S. T. Khelev. Doklady Akad. Nauk S.S.S.R. 99, 1571-4(1965). Cf. C.A. 42, 3304c. Electrolytic expts. were made on 12 steels contg. C 0.85-1.17, Cr 1.05-4.14, Ni 0.31-2.02, Mo 0-0.50, W 0-2.5, Mn 0.16-1.36, Si 0.23-0.45, P 0.015-0.028, and S 0.000-0.015% in the following states: (1) annealed, and (2) quenched and tempered 8 hrs. at (a) 400°, (b) 500°, and (c) 600°. The residue obtained was subjected to chem. analysis and x-ray examn. Stable carbides were found in (1) and (2a) while a "low-temp. phase" predominated in (2a) and (2b). In addn. to Fe, the low-temp. phase contained the alloying elements (Cr, W, Mo), but to a lesser extent than the stable carbides. The Cr, W, and Mo contents increased with an increase in the corresponding alloy content of the steel and with an increase in the tempering temp. The stability of the low-temp. phase decreased as its alloy content increased. The crystal structure could not be detd. because of the numerous lines and weak diffraction pattern. H. W. R.

Evaluation B-77299.

ASME-STEEL METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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KISELEV, S.T.

PA 24/49T95

USSR/Metals
X-Ray Analysis
Austenite

Jan 49

"The Mechanism of Dissolving Carbides in Austenite,"
V. I. Arkharov, S. T. Kiselev, Inst Phys of Metals,
Ural Affiliate, Acad Sci USSR, Ural Mach Plant, 2 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 1 - p.136-37

Investigates, through X-ray analysis, low-alloy
steels, close to structural steel in composition.
Found that the carbide lattice parameter increased
continuously with temperature increase during temper-
ing. This is explained in that the content of tung-
sten, which has a considerably greater atomic radius
than iron, increases in the carbide composition.

24/49T95

KISELEV, S. T.

USSR/Metals - Cast Iron, Structure Oct 51

"Effect of Inoculants on Crystallization of Cast Iron," A. V. Bobrov, S. T. Kiselev, Engineer, Uralmashzvod 3
"Mitye Pridzvod" No 10, pp 22-26

Upon studying Debye crystallograms and fractur-
tures of various cast irons concludes: Ob-
taining high-quality inoculated cast iron re-
quires inoculants and casting conditions which
would hamper segn. of carbon and its crystal in
graphite form inside of austenitic grains during

19870

USSR/Metals - Cast Iron, Structure Oct 51
(Cont)

metal cooling. This may be achieved by selec-
tion of inoculants which raise temp of eutectic
transformation and promote graphite crystal
directly from liquid melt.

19870

USSR

1953* Investigation of the Structure of Grains in Fractures of Unmodified and Modified Cast Irons. K. voprosu o stroenii zren v izlomakh nemodifitsirovannykh i modifitsirovannykh chugunov. (Russian.) A. V. Bobrov and S. T. Kiselev. *Litenee Proizvodstvo*, 1954, no. 9, Dec., p. 20-22. Effects of grain size in gray and Mg treated irons. Micrographs, refractograms. 3 ref.

KISELEV, S.T.

Spherical mold for the cooling of converter matte. TSvet met. 35
no.6:78-80 Je '62. (MIRA 15x6)
(Nonferrous metals--Metallurgy)

KISELEV, S.T.

Methods of preparing copper-nickel mattes for separation by flotation into copper and nickel concentrates. TSvet. met. 35
no.11:63-66 N '62. (MIRA 15:11)
(Copper ores) (Nickel ores) (Flotation)

KISELEV, S.T.

Methods of zinc and copper removal from copper smelting slags
with a high content of these two elements. TSvet. met. 36
no.6:79-81 Je '63. (MIRA 16:7)

(Copper industry--By-products)
(Slag--Analysis)

KISELEV, S. V., PROFESSOR

"Twenty-Five Years of Soviet Archaeology" Vest. Ak. Nauk SSSR, No. 9, 1944

Br-52059019

S. V. Kiselev

SOV/30-58-6-37/45

AUTHORS: Gantskaya, O. A., Merpert, N. Ya., Candidates of Historical Sciences

TITLE: Research Work Carried out by Soviet Archeologists and Ethnographers (Issledovaniya sovetskikh arkheologov i etnografov)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 125-128 (USSR)

ABSTRACT: From April 7 to 12 a conference of the Department of Historical Sciences (otdeleniye istoricheskikh nauk), the Institute of the History of Material Culture (Institut istorii materialnoy kultury), as well as the Institute of Ethnography imeni N. N. Miklukho-Maklay of the AS USSR (Institut etnografii imeni N. N. Miklukho-Maklaya AN SSSR) was held in Moscow. It dealt with the results obtained by archeological and ethnographical research work in 1957. More than 700 persons took part, all of whom represented scientific research institutes, colleges and museums of more than 150 towns of the USSR. The conference was opened by Ye. M. Zhukov. Lectures were held by:

Card 1/4 1) S. V. Kiselev on research work carried out with respect to the

Research Work Carried out by Soviet Archeologists and Ethnographers

SOV/30-58-6-37/45

- Zabaykal'ye towns.
- 2) S. A. Semenov on the investigations of primitive forms of engineering.
 - 3) B. A. Rybakov on the problem of the relations between archeologic sources and chronicles.
 - 4) S. P. Tolstov on the results obtained by the Khorezmsk expedition
 - 5) N. N. Voronin on the results of many years of work performed by archeologists on the history of old Russian architecture.
 - 6) I. I. Potekhin on his work in the former British colony of the Gold Coast.
 - 7) S. V. Ivanov on the investigation of the Sibir' peoples.
 - 8) M. K. Karger on a prehistoric settlement at Volyn'.
 - 9) B. B. Piotrovskiy on the investigation of the first state established on USSR territory.
 - 10) Ye. I. Krupnov on the expedition to Severo-Kavkaz in 1957.
 - 11) G. B. Fedorov on the old Slavs in Moldaviya.
 - 12) D. B. Shelov on new data in the history of Tanais.

Card 2/4

152 reports on archeological problems were discussed by 8 sections. The conference of the Scientific Council of the

GOMAN'KOV, V.I.; KASATKIN, S.N.; KISELEV, S.V.; LOSHMANOV, A.A.;
OZEROV, R.P.

Neutron diffraction unit attached to the IRT reactor. Prib. 1
tekh. eksp. no.6:45-48 N-D '60. (MIRA 13:12)

1. Institut fizicheskoy khimii AN SSSR, Nauchno-issledovatel'skiy
fiziko-khimicheskiy institut.
(Neutrons--Diffraction)

OZEROV, R.P.; KISELEV, S.V.; KARPOVICH, I.R.; GOMAN'KOV, V.I.; LOSHMANOV,
A.A.

Neutron diffractometer based on unit GUR-3 and equipped with remote
control. Kristallografiia 5 no.2:317-319 Mr-Apr '60. (MIRA 13:9)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.
(Neutrons—Diffraction)

ZHDANOV, G.S.; KISELEV, S.V.; OZEROV, R.P.

Magnetic structure of austenitic steel. Kristallografiia 7 no.4:
619-620 J1-Ag '62. (MIRA 15:11)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(Steel--Magnetic properties)

10385

S/020/62/145/006/007/015
B182/B102

24.1200

AUTHORS: Kiselev, S. V., Ozerov, R. P., and Zhdanov, G. S.

TITLE: Determination of the magnetic order in the ferroelectric BiFeO_3 by neutron diffraction patterns

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 6, 1962, 1255-1258

TEXT: Perovskite of type BiFeO_3 has ferroelectric properties. On the other hand, compounds of the perovskite type ABO_3 (with B = Fe, Mn) show ferromagnetic and antiferromagnetic properties. The existence of a magnetic order in BiFeO_3 is now verified by comparing two neutron diffraction patterns, one of which taken at 600°C shows coherent diffraction peaks as would be expected from a cubic lattice whilst the other taken at room temperature shows the same peaks in addition to reflections in positions where one would not expect them on the basis of the chemical structure of the unit cell. The magnetic nature of these peaks is identified by the temperature dependence of their intensities; a Neel

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Determination of the magnetic order...

S/020/62/145/006/007/015
B182/B102

temperature of 380°C results. The peaks in the 600°C pattern have been identified on the assumption of a cubic unit cell with $a = 3.963 \text{ \AA}$. By choosing a period $a_{\text{magn}} = 2a = 7.926 \text{ \AA}$, it is possible, however, to identify the magnetic peaks in the other pattern as well as the coherent ones. From this it is found that the magnetic structure of BiFeO_3 is of the type G (Phys. Rev. 100, 545, 1955); i.e. each magnetic moment is surrounded by six antiparallel moments. The quantum number as calculated from the magnetic structure and the intensity of the first magnetic peak is $S = 1.98$, whereas the expected value for Fe^{3+} would be $S = 5/2$. This can be attributed primarily to the fact, that at room temperature the magnetic order is incomplete. The results indicate the existence of a new class of chemical compounds with definite magnetic and electric properties. In BiFeO_3 , the periodicity of the magnetic field is twice the periodicity of the electric field. From the interaction of these fields a weak ferromagnetism of the lattice is to be expected, and this phenomenon may possibly be typical for all cases in which the period of the magnetic field differs from that of the electric field. There are 2 figures.

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Determination of the magnetic order...

S/020/62/145/006/007/015
B182/B102

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

PRESENTED: April 6, 1962, by N. V. Belov, Academician

SUBMITTED: April 3, 1962

Card 3/3

KISELEV, S. V.

"Neutron Diffraction Observation of Magnetic Ordering, and
Determination of Atomic Displacements in Ferroelectric BiFeO_3
and Related Compounds."

Report presented at the International Congress of Crystallography,
Rome, Italy, on 9-18 Sept. 63.

ZHDANOV, G. S.; KISELEV, S. V.; OZEROV, R. P.

"Neutron-diffraction observation of magnetic ordering and determination of atomic displacements in ferroelectric BiFeO_3 and related compounds."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome,
9 Sep 63.

Karpov Inst of Physical Chemistry, Moscow.

KISELEV, S.V.; KSHNYAKINA, A.N.; OZEROV, R.P.; ZHDANOV, G.S.

Neutron diffraction examination of magnetic ordering and atomic displacements in certain iron-containing Perovskite type substances with special dielectric properties. Fiz. tver. tela 5 no.11: 3312-3316 N '63. (MIRA 16:12)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya.Karpova, Moskva.

IVANOV, V.G., inzh.; KISELEV, S.Ye., inzh.

Active ploughshare. Nauka i zhizn' 29 no.3:12-13 Mr '62.

(MIRA 15:7)

(Potato digger (Machine))

KISELEV, T.; DIORDITSA, A.; TYNURIS, E.; CHOGOVADZE, G.; BEGMATOVA, S.; GAPUROV, M.; KAKHAROV, A.

The entire country participates in foreign trade. Vnesh. torg. 43 no.12: 6-12 '63. (MIRA 17:2)

1. Predsedatel' Soveta Ministrov Belorusskoy SSR (for Kiselev).
2. Predsedatel' Soveta Ministrov Moldavskoy SSR (for Diorditsa).
3. Zamestitel' Predsedatelya Soveta Ministrov Estonskoy SSR (for Tynuris).
4. Zamestitel' Predsedatelya Soveta Ministrov Gruzinskoy SSR (for Chogovadze).
5. Zamestitel' Predsedatelya Soveta Ministrov Kirgizskoy SSR (for Begmatova).
6. Predsedatel' Soveta Ministrov Turkmenskoy SSR (for Gapurov).
7. Predsedatel' Soveta Ministrov Tadzhikskoy SSR (for Kakharov).

111 AND 2ND ORDERS

PROPERTIES AND PROPERTIES INDEX

100 AND 4TH ORDERS

CA

22

Construction of petroleum equipment for the treatment of corrosive eastern crude oils. T. A. Kiselev. *Vostochnaya Neft* 1940, No. 5-6, 42-5. Highly alloyed steel should be used in the parts of refinery equipment where the corrosive action is severe. Threaded parts should be eliminated as much as possible, and should be eliminated in bubble towers where they are used now to fasten caps to the plates. Various methods of checking the corrosion of equipment in the United States are discussed. Construction details of some equipment (heat exchangers and bubble towers) used in the United States are criticized. A. A. Boehlingk

ASA-32A METALLURGICAL LITERATURE CLASSIFICATION

32000 32100 32200 32300 32400 32500 32600 32700 32800 32900 33000 33100 33200 33300 33400 33500 33600 33700 33800 33900 34000 34100 34200 34300 34400 34500 34600 34700 34800 34900 35000 35100 35200 35300 35400 35500 35600 35700 35800 35900 36000 36100 36200 36300 36400 36500 36600 36700 36800 36900 37000 37100 37200 37300 37400 37500 37600 37700 37800 37900 38000 38100 38200 38300 38400 38500 38600 38700 38800 38900 39000 39100 39200 39300 39400 39500 39600 39700 39800 39900 40000 40100 40200 40300 40400 40500 40600 40700 40800 40900 41000 41100 41200 41300 41400 41500 41600 41700 41800 41900 42000 42100 42200 42300 42400 42500 42600 42700 42800 42900 43000 43100 43200 43300 43400 43500 43600 43700 43800 43900 44000 44100 44200 44300 44400 44500 44600 44700 44800 44900 45000 45100 45200 45300 45400 45500 45600 45700 45800 45900 46000 46100 46200 46300 46400 46500 46600 46700 46800 46900 47000 47100 47200 47300 47400 47500 47600 47700 47800 47900 48000 48100 48200 48300 48400 48500 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KISELEV, T. A.

M: Sovremennyye Metody Pererabotki Nefti (Modern Methods of Processing Crude Oils)
Moscow-Leningrad 1945

Soviet Source:

Abstracted in USAF "Treasure Island", on file in Library of Congress, Air
Information Division, Report No. 91179

KISELEV, T. A.

Sakhalinskaya O. RSFSR; Bashkirskaia ASSR; Maykop Krasnodarskiy kray, RSFSR

Crude Oils with a high content of aromatic hydrocarbons.

Soviet Source: M: Souremennyye Metody Pererabotki Nefti - Leningrad, Moscow, 1945
Abstracted in USAF "Treasure Island" Report No. 23297, on file in Library of Congress,
Air Information Division.

KISELEV, T. A.

M; Fraktika pererabotki serhistoy nefiti (Methods of retiring sulfurous crudes),

Soviet Source: Moscow, Leningrad 1949

Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information Division, Report No. 113989. Unclassified.

KISELEV, T. A.

"Industrial Practice in Refining Sulfur-containing Petroleum" (Praktika Pererabotki Sernistoy Nefti), T. A. Kiselev, Gostoptekhizdat, Moscow/Leningrad, 1949, 224 pages, 13 rubles.

The technological data is based on experience gained in refining sulfur-containing petroleum obtained in the "Second Baku" region.

SO: Uspekhi Khimii, Vol 18, #6, 1949; Vol 19, #1, 1950 (W-10083)

KISELEV, V.

AVDON'KIN, P.; KISELEV, V.

Stands for checking and adjusting electric equipment. Avt. transp. 35
no.5:33-34 My '57. (MIRA 10:6)

(Automobiles--Electric equipment)

KISELEV, V., inzhener (Chelyabinsk).

Automatic blocking of the hopper feeder. Stroim. mat. 2 no. 12:28 D '56.
(Conveying machinery) (MLRA 10:2)

KISELEV, V.

Housing for state farm workers. Sov.profsoliuzy 7 no.19:47-48
0 '59. (MIRA 13:2)

1. Inspektor TSentral'nogo komiteta profsoyuza rabochikh i
sluzhashchikh sel'skogo khozyaystva i zagotovok.
(Labor and laboring classes--Dwellings)
(State farms)

104000

27594
S/029/61/000/010/001/004
D037/D113

AUTHOR: Kiselev, V. Engineer

TITLE: In the skies of the fatherland

PERIODICAL: Tekhnika molodezhi, no. 10, 1961, 1-3

TEXT: The article deals with design and structural changes in high-speed aircraft necessitated by the need to reduce aircraft noise and heating of the aircraft's frame. In order to keep the noise level in the passenger cabin to a minimum, the engine has to be transferred as far as possible towards the tail of the aircraft. However, this radical change in the position of the engines will demand certain modifications in the design and shape of future aircraft. In this connection the author briefly describes (1) the canard system; (2) the fuselage aircraft; and (3) the hypersonic rocket glider (see fig. 4). (1) The canard system allows the engine to be placed at the rear of the airplane and the horizontal tail surfaces to be shifted forward into the nose. The horizontal tail surfaces produce a vertical lift force, supporting the wing. For this reason the canard aircraft may transport a larger payload than an ordinary aircraft of the same weight. A disadvantage is that at low speeds the airplane, during take-off and landing,

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In the skies of the fatherland

threatens to hit the ground. To prevent this, the effectiveness of the horizontal tail surfaces can be increased by using the vertical thrust of a small jet engine in the aircraft's nose. The supersonic airliner of the future will develop a speed of 2,000 to 3,000 km/hr. To protect the covering from overheating, the ceiling has to be raised to 20-25 km. Steel and titanium will be used as basic materials for the covering. In future, passenger planes developing a speed 6-7 times higher than the speed of sound, will be built. The curvature of the Earth will play a considerable role at these speeds; at a speed 6-8 times the speed of sound, centrifugal force is equal to nearly 10% of the airplane's weight. (The total weight of the plane will be balanced by centrifugal force at a first cosmic speed of approximately 28,400 km/hr.) (2) The possibility of obtaining body lift from the fuselage itself and the increasing centrifugal force make wings unnecessary. The "flying fuselage" airplanes will be equipped with powerful installations permitting vertical take-off and landing. Besides this, engines will have to be installed, some developing horizontal thrust and others lift thrust. The use of these airliners over distances of 6,000-12,000 km. will

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D037/D113

In the skies of the fatherland

be most advantageous, economically speaking. (3) For longer distances hypersonic rocket gliders with a liquid fuel jet engine are recommendable; the jet engine will be used only on the initial part of the trajectory, the remaining part of the flight being completed by gliding. The rocket glider can be launched into a satellite's orbit. To avoid overheating during landing, a gradual braking of the glider is advisable at highest possible altitudes from 100 to 60 km where the aerodynamic heating and the braking overloads are less. The rocket glider, therefore, needs a larger wing area. A faster braking at high altitudes can be achieved by increasing the angle of incidence up to 90° . As the temperature, nevertheless, rises to 1000°C , the body has to be made of heat-resistant molybdenum steels and ceramic materials. Nowadays supersonic speeds of 2,000 to 3,000 km/hr have already been developed. The next step will be a speed of 3,000 to 20,000 km/hr developed by supersonic aircraft and supersonic rocket gliders for long-range flights. There are 4 figures.

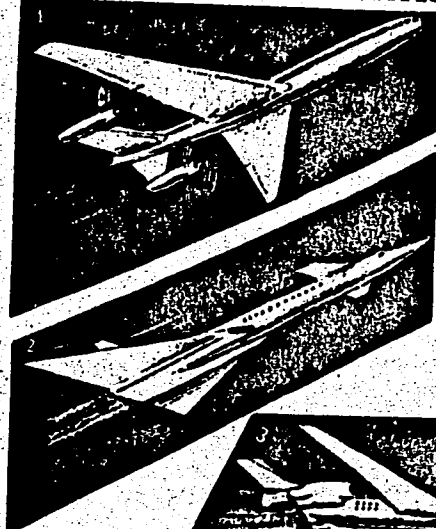
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In the skies of the fatherland

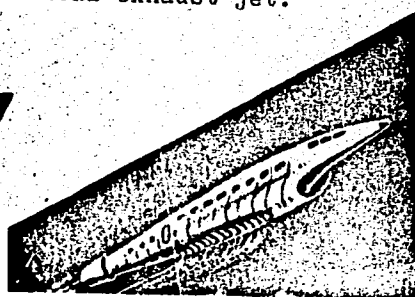
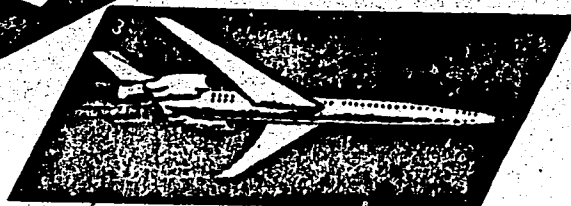
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Fig. 4. Possible systems of future aircraft.
(1) the usual system with a turbo-prop engine at the tail; (2) the canard aircraft; (3) a standard aircraft with a turbo-jet engine at the tail; (4) a wingless aircraft in which the lift is produced by a vertical exhaust jet.



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KISELEV, V. (Leningrad)

An unusual museum. Sov. profsoiuzy 17 no.21:44 N '61. (MIRA 14:10)
(Priozersk--Museums)
(Matchbox labels)

BERNATSKIY, A., kand.tekhn.nauk; TOCHININ, P., inzh.; KISELEV, V., inzh.

Transportation of round timber in bundles. Rech. transp. 24
no.4:20-22 '65. (MIRA 18:5)

KISELEV, V.

For concrete and effective collective agreements. Okhr.truda i
sots.strakh. 5 no.12:6-7 D '62. (MIRA 16:2)

1. Predsedatel' Saratovskogo oblastnogo soveta professional'-
nykh soyuzov.

(Saratov Province—Collective labor agreements)
(Saratov Province—Industrial hygiene)

KISSELEV, V. A. (Kiyev)

Orthopedic footwear in drop foot. Ortop., travm. i protez. 17 no.1:
44 Ja-F '56. (MIRA 9:12)

(SHOE

orthopedic, in drop foot)

(FOOT, dis.

drop foot, orthopedic shoes)

KISELEV, V. A.

MIGINA T. V., KISELEV V. A.

O roli razlichnykh otdelov tsentral'noi nervoi sistemy v patogeneze anafilakticheskogo shoka: [Role of different sections of the central nervous system in the pathogenesis of anaphylactic shock.] Arkh. pat., Moskva 12:4 July-Aug p. 17-21.

1. Of the Experimental Department (Head -- Prof. S. M. Pavlenko) of Moscow Oblast Scientific-Research Clinical Institute, Moscow.

GLML 19, 5, Nov 50

BERNADSKIY, Yu.I., dots., KISELEV, V.A.

Possibility of transecting the neurovascular bundle on the hard
palate in uranostaphyloplasty. Stomatologiya 37 no.4:43-48
Jl-Ag '58 (MIRA 11:9)

1. Iz stomatologicheskoy kliniki (sav. - dots. Yu.I. Bernadskiy)
kafedry gospiral'noy khirurgii (sav. - prof. G.N. Luk'yanov)
Kubanskogo meditsinskogo instituta (dir. - prof. V.K. Suprunov).
(PALATE SURGERY)

KISELEV, V.A.

Use of radical plastic surgery of the palate with intersection of the neurovascular bundles. Stomatologiya 38 no.6:38-42 N-D '59.
(MIRA 13:4)

1. Iz stomatologicheskoy kliniki (zav. - doktor med.nauk Yu.I. Bernadskiy) kafedry gosital'noy khirurgii (zav. - prof. G.L. Luk'yanov) Kubanskogo meditsinskogo instituta (direktor - prof. V.K. Suprunov).

(PALATE, CLEFT)

KISELEV, V. A., Cand Med Sci -- "Results of radical plastic surgery of the
palate with intersection of ^{the} neurovascular fasciculi." Mos, 1960 (Min of Health
RSFSR. Mos Med Stomatological Inst). (KL, 1-61, 208)

-390-

CSSR

^E
KISELEV, V.A.

candidate of medical sciences; director, stomatological clinic

Dept. of surgery, director: Prof G.N. LUKJANOV

Kuban medical institute, director: Prof. V.K. SUPRUNOV, scientific director:

Prof. J.I. BERNADSKII, Krasnodar

Prague, Ceskoslovenska Stomatologie, No 6, 1962, pp 425-428

"Results with Uranoplastics In Severing of Neurovascular Bundles"

KISELEV, V.A.

Venous pressure during pneumoencephalography in patients with
some neuro-organic diseases. Trudy Gos. nauch.-issl. psikhonevr.
inst. 31:277-283 '63. (MIRA 17:6)

L 6429-66 EWT(d)/EWT(m)/EWP(w)/FA/FA(b)/EWP(v)/T-2/EWP(k)/EWP(h)/EWA(h)/

ACC NR: AP5020847

SOURCE CODE: UR/0147/65/060/003/0136/0143

ETC(m) WW/EM

AUTHOR: Kiselev, V. A. 435

ORG: None

TITLE: Determination of the weight of the longitudinal components of passenger aircraft fuselages

SOURCE: IVUZ. Aviatzionnaya tekhnika, no. 3, 1965, 136-143

TOPIC TAGS: transport aircraft, passenger aircraft, aircraft fuselage, aerospace structure, tensile stress, compressive stress, stress analysis 2, 6

ABSTRACT: In calculating the weight of the fuselage, the fundamental and most complex problem is the determination of the weight of the longitudinal assembly, which includes the weight of the stringers, the casing, and the reinforced longitudinal girders (longerons, beams). The weight of the longitudinal assembly depends directly on the external loads on the fuselage and may be found analytically. The present article presents a method which makes it possible to take into account the normal as well as the tangential loads. It is assumed that for passenger aircraft fuselages, the upper half of the cross section is under tensile force and the lower half under compressive force. In deriving the formula, the linear tensile and compressive stress is assumed constant along the perimeter of the cross section and equal to the maximum value for a round fuselage with a constant reduced thickness. The method proposed, termed the nominal moment method, makes it possible to find not only the weight of the longitudinal assembly

UDC: 629.13.012

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ACC NR: AP5020647

bly, but by means of two formulas derived, the distribution of the cross section areas along the length of the fuselage, i.e., the method may be used for the preliminary design calculations of the strength of the fuselage. Orig. art. has: 4 figures and 15 formulas. 71

SUB CODE: AS / SUBM DATE: 09Dec64 / ORIG REF: 003

nw
Card 2/2

KISELEV, V.A.

Determining the weight of the longitudinal fuselage set
passenger airplanes. Izv. vys. ucheb. zav.; av. tekhn. 7
no.3:136-143 '65. (MIRA 18:9)

KISELEV, V.A., inzh.; MOKIN, V.A., inzh.; EKSEL'RUD, L.I., inzh.

Conversion of the principal ejectors of VPT-25-3 turbines to operation on 10 atm. seam pressure. Energetik. 13 no.9:19-20 S '65.
(MIRA 18:9)

L 04446-67 EWT(1)/FCC GW

ACC NR: AP6018936

SOURCE CODE: UR/0203/66/006/003/0618/0621

AUTHOR: Mamrukov, A. P.; Kiselev, V. A.; Kornil'yev, V. M. 53
B

ORG: Institute of Cosmic Physics Investigation and Aeronomy, Yakutsk Branch, SO AN SSSR
(Institut kosmofizicheskikh issledovaniy i aeronomii Yakutskogo filiala SO AN SSSR)

TITLE: A device for visible registration of the H component of the Earth's magnetic field 12

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 618-621

TOPIC TAGS: earth magnetic field, magnetic field measurement, electronic circuit

ABSTRACT: An experimental device for the registration by pen on graph paper of the variations of the H-component of the Earth's magnetic field is described. Appropriate sensors enable the device to register arbitrary components of the magnetic field. The device, now in operation in Yakutsk, consists of a sensor in a constant temperature chamber and a registering device placed 100 m away and connected by an underground cable. The sensor consists of a magnetic variometer equipped with two FS-K2 photoresistors. The paper presents the basic theory, the circuit diagram, and transformer data. The sensitivity of the device may be varied

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UDC: 550.386:681.2

L 04446-57

ACC NR: AP6018936

by changing the resistance in the d-c amplifier grid circuit yielding 3, 1.5, and 0.5 γ/mm .
An example of field component registration is also given. Orig. art. has: 1 formula, 3
tables, and 1 figure.

SUB CODE: 08, 14, 20/ SUBM DATE: 28Jul65/ ORIG REF: 002

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L 41665-65

ACCESSION NR: AR4040019

S/0271/64/000/004/A027/A027

2
B

SOURCE: Ref. zh. Avtomat., telemekh. i vychisl. tekhn. Sv. t., Abs. 4A174

AUTHOR: Yavorskiy, V. N.; Kiselev, V. A.

TITLE: Selection of optimal roots of characteristic equations of servo drives

CITED SOURCE: Sb. tr. Leningr. mekh. in-ta, no. 29, 1963, 36-45

TOPIC TAGS: servo, characteristic equation

TRANSLATION: The work is devoted to the selection of the best disposition of the roots of characteristic equations of the 5th to 8th degree. A differential equation with a right-hand member is reduced to a normalized characteristic equation of the system. The system behavior with various dispositions of the roots is assessed by the transient process occurring upon application of a step input and by the system amplitude-frequency characteristics. Tables and curves are supplied. The authors infer that the transient processes in a high-order system cannot be calculated from a low-order equation set up on the basis of 2-3 lower roots of the initial characteristics equation. See also RZhAIVT, 1963, 9A186.

SUB CODE:MA , IE

ENCL: 00

Card 1/1 CC

KISELEV, V.A. (Zaporozh'ye)

Apparatus for measuring the pressure of the cerebrospinal
fluid and the insufflation of gases into the cranial cavity in
pneumoencephalography. Vrach. delo no.1:144-145 Ja'64
(MIRA 17:3)

1. Tret'ya Zaporozhskaya klinicheskaya bol'nitsa.

BUHEL'NIKOV, S.M.; KUDINOV, B.Z.; KISELEV, V.A.

Dressing of titanium-magnetites from the Kruchina deposit.
Obog. rud 5 no.3:3-6 '60. (MIRA 14:8)

1. Institut metallurgii Ural'skogo filiala AN SSSR.
(Kruchina region--Magnetite) (Ore dressing)

KISELEV, V.A. (Chardzhou)

Organization of pediatric nutrition in a village. Zdrav.Turk. 7
no.2:33-34 P '63. (MIRA 16:4)

(CHILDREN--NUTRITION)

KISELEV, V. A.

28(1);25(1) PHASE I BOOK EXPIRATION 509/2831

Mechanization of Automation of Labor-saving Operations in the Foundry (Mechanization of Labor-saving Operations in the Foundry Practice) Moscow, Mashiz, 1959. 226 p. Illustrations 4,000 copies printed.

Author: K. N. Skobnikov, Candidate of Technical Sciences; Ed. (title page): G. I. Kobylanskiy (deceased); Ed. (back cover): A. M. Sokolov, Candidate of Technical Sciences; Tech. book; G. V. Sprenskaya, Managing Editor; Literature on the Technology of Machinery Manufacture (Leningrad Division, Mashiz); Ye. P. Kuznetsov, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and enterprises engaged in the mechanization and automation of industrial processes. It may also be used by students of institutions of higher technical education.

CONTENTS: The book deals with recent achievements in the mechanization and automation of time-and labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented in this book is divided into six parts, dealing with the following subjects: molding materials, acid and cermet casting, shakeout of solids, finishing of castings, and special casting methods. Each part contains a list of authors. The application of automation from the preparation of molds and cores to the mechanization and streamlining of specialized casting methods, such as investment casting and the use of shell molds. There are numerous diagrams showing automated and mechanized installations in foundries. Most of the material is based on experimental work done at the "Krasnyy Kray" Plant. Some of the methods described appear to be in the experimental stage. The technical papers published in this book were originally presented at a technical conference of the Soviet machine industry in October 1957. No personalities are mentioned.

Krishteyn, L. N. Production of Sand Molds by Hydraulic Pressing 78

Kiselev, V. A. Mold Making With a Sand Slinger in Steel Foundries 79

Vedenskiy, I. Transport and Distribution of Rapid-drying Catalyst Compounds to Tanks 33

Salmov, P. I. Mechanization of Shell-mold Casting 212

Spurnitskiy, G. M. Use of High-frequency Electric Heating for Molding Shell Mold Valves 216

Dyakovskiy, V. S. Overall Automation of Mixing Systems in Foundry Shops 40

Zayzerov, I. B.; A. M. Gvozdevich, and I. S. Gendalovich. Mechanization of Casting and Extraction Operations to Remove Cores from Planks in Pneumatic Ramming 97

Kramer, M. A. and M. A. Bakhramov. Quick-change Equipment for Coremaking on Vibrating Molding Machines in Small-lot Production 101

Krill'bitskiy, L. M. Mechanization of Mold Transfer from Assembly Line to Conveyor Belt 104

Zelichenskiy, G. S. Automated Lines for Molding and Shakeout in Foundry Shops 47

Poruchikov, Yu. B. Some Problems in the Automation of Charge Composing and Cupola Charging 106

BUHEL'NIKOV, S.M.; KUDINOV, B.Z.; KISELEV, V.A.

Dressing and metallurgical estimate of titanium-magnetite
ores. Titan i ego splavy no.5:38-49 '61. (MIRA 15:2)
(Ore dressing)
(Titanium--Metallurgy)
(Magnetite--Metallurgy)

KISELEV, V.A. [Kysel'ov, V.A.], vrach-nevropatolog (Zaporozh'ye)

It is possible and necessary to create. Kautka i zhyttia 11
no.9:4E-49 S '61. (MIDE 14:10)

(MEDICAL INSTRUMENTS AND APPARATUS)

KISELEV, V.A.
AUTHOR:

Kiselev, V.A., Candidate of Pedagogical Science 3-58-4-16/34

TITLE:

We Continue the Discussion of the Students Physical Training
(Prodolzhayem razgovor o fizicheskom vospitanii studentov)

PERIODICAL:

Vestnik Vysshey Shkoly, 1958, # 4, pp 56 - 57 (USSR)

ABSTRACT:

The article deals with the experience of the Chair of Physical Training and Sports of the Moscow Institute of Energetics in physical training.

During the first days of study, the student is subjected to tests in 4 kinds of exercises which determine the basic physical qualities of the student, i.e. speed, strength, endurance and adroitness. Results have proved that physical development of the new class of higher school students is on a very high level. 91.5% were found capable of participating in physical training. However, these results do not correspond to the demands of the program of physical training and prove that in some secondary schools, sports do not receive sufficient emphasis.

Instructors of the chair of physical training are entitled to handle each case individually and to reduce the norms for those students who, inspite of active participation, could

Card 1/2

We Continue the Discussion of the Students Physical Training 3-58-4-16/34

not attain the established norms.

• ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)

• AVAILABLE: Library of Congress

Card 2/2

KISHLEV, V.A., mladshiy serzhant

Quicker way to prepare initial data from the map. Artill.shur.
no.8:54 Ag '53. (MIRA 13:4)
(Military topography)

ZOLOTOTRUBOV, I.M.; NOVIKOV, Yu.M.; KISELEV, V.A.

Electrodynamic generation of shock waves. Zhur.tekh. fiz. 32
no.2:253-255 F '62. (MIRA 15:2)
(Shock waves) (Magnetic fields)

L 24318-66 EWT(1)/EPF(n)-2/EWG(m) IJP(c) AT
 ACC NR: AT6006750 SOURCE CODE: UR/3137/64/000/080/0001/0008

AUTHORS: Zolototrubov, I. M.; Kiselev, V. A.; Novikov, Yu. M.; Tolok, V. T. ⁵⁹
 BT/

ORG: none

TITLE: Operation of a ²¹coaxial plasma source in a ^{2/}longitudinal magnetic field

SOURCE: AN UkrSSR. Fiziko-tehnicheskii institut. Doklady, no. 080/P-052, 1964. Rabota koaksial'nogo plasmennogo istochnika v prodol'nom magnitnom pole, 1-8

TOPIC TAGS: plasma gun, plasma injection, plasmoid, hydrogen plasma, plasma structure, plasmoid acceleration, longitudinal magnetic field.

ABSTRACT: To produce a plasmoid with a relatively small number of impurities and neutral particles, the authors developed a new construction, in which the coaxial plasma gun is placed in a longitudinal magnetic field, with an aim of having the rotation of the plasma in the crossed electric and magnetic fields symmetrize the discharge in

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L 24318-66

ACC NR: AT6006750

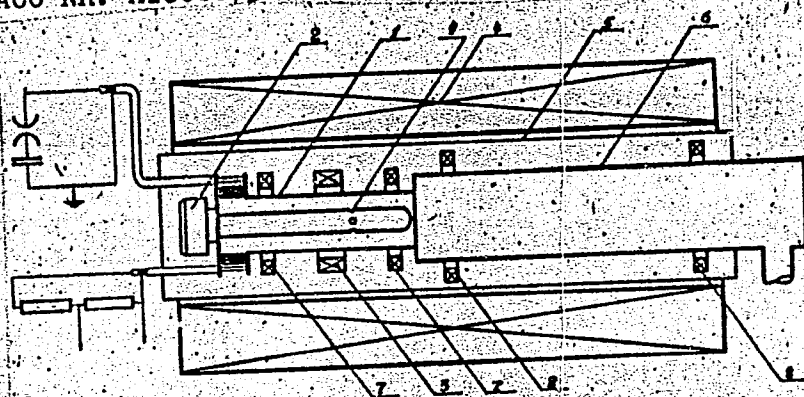


Fig. 1. Diagram of setup. 1 -- Gun, 2 -- vacuum valve, 3 -- field coil, 4 -- solenoid, 5 -- screen, 6 -- vacuum system, 7, 8 -- magnetic probes, 9 -- gas-inlet openings.

azimuth and increase the degree of ionization and the magnitude of the transverse component of the particle energy (Fig. 1). A field up to 8000 G was produced by discharging a capacitor bank. The working gas was hydrogen. The gun-current oscillogram shows the typical plateau characterizing rotation of the plasma in the crossed

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ACC NR: AT6006750

fields. The rotation of the plasma was measured with external probes and the propagation of the plasma in the azimuthal direction was investigated by high-speed photography. The experiment has shown that when the coaxial source is placed in a longitudinal magnetic field the plasma rotates in azimuthal direction, the discharge occurs over the entire length of the gun and is symmetrical with respect to the periphery of the electrodes. This contributes to a cleaner plasma. Spectrograms of the discharge have shown that the magnetic field does decrease the intensity of the iron and chromium lines in the plasma spectrum. A shortcoming of the source is the small longitudinal plasmoid velocity (10^7 cm/sec) and insufficient ionization. These shortcomings are expected to be eliminated in the future. Orig. art. has: 6 figures.

SUB CODE: 20/1 ORIG REF: 002/ OTH REF: 003

SUBM DATE: none

Card

3/3 fr

1. 8908-66 EWT(1)/ETC/EPF(n)-2/ENG(m) IJP(c) AT
 ACC NR: AT5022293 SOURCE CODE: UR/3137/64/000/082/0001/0010
 AUTHOR: ^{44, 55} Zolotrubov, I. M.; ^{44, 55} Kiselev, V. A.; ^{44, 55} Novikov, Yu. M. ⁶¹
 ORG: ^{44, 55} Academy of Sciences UkrSSR, Physicotechnical Institute (Akademiya nauk UkrSSR, Fiziko-tehnicheskiiy institut) ^{BF}

TITLE: Investigation of current distribution in the coaxial plasma gun

SOURCE: AN UkrSSR. Fiziko-tehnicheskiiy institut. Doklady, no. 082/P-034, 1964.
 Issledovaniye raspredeleniya toka v koaksial'noy plazmennoy pushke, 1-10

TOPIC TAGS: ^{21, 44, 55} plasma gun, plasma diagnostics, plasmoid acceleration

ABSTRACT: Current distribution along the length of coaxial plasma guns was studied using differential magnetic probes and high speed photography. It is shown that several current sheets are initially formed during the discharge in the plasma gun. The discharge current of the capacitor bank leads to fusion of the current sheets during its later stage. Current sheet motion was also studied using magnetic probes and high speed photography. A comparison of plasmoid and current sheet speeds indicates that these are not identical and in fact plasmoid motion exceeds the sheet motion by a factor of about seven. Plasmoid acceleration is not a result of electrodynamic acceleration but rather is due to the drift of plasma in the crossed magnetic and electric fields existing in the plasma gun ahead of the current sheet. This

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L 8908-66

ACC NR: AT5022293

is consistent with the magnitude of the Larmor radius, which turns out to be comparable to the plasma gun diameter. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: none ORIG REF: 002/ OTH REF: 003

CC

Cont 2/2

S/0057/64/034/006/0998/1004

ACCESSION NR: AP4040300

AUTHOR: Zolototrubov, I.M.; Kiselev, V.A.; Novikov, Yu.M.

TITLE: Investigation of the processes taking place within a coaxial plasma gun

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 998-1004

TOPIC TAGS: plasma, plasma source, plasma physics, discharge tube, hydrogen plasma

ABSTRACT: The behavior of a coaxial plasma gun was observed with probes and high speed photography in order to elucidate the operating principles of this much used but not thoroughly understood device. The gun consisted of two 66 cm long coaxial cylinders 3.0 and 6.8 cm in diameter, closed at one end by a ceramic insulator and open at the other to a 10^{-6} mm Hg vacuum. Hydrogen (0.8 cm^3 at standard conditions) was admitted through an opening in the wall of the outer electrode midway between the ends by means of a quick acting electrodynamic valve. The gun was powered with a 12 microfarad capacitor charged to 20 kV. The total inductance was 0.3 microhenry, the half-period was 5 microsec, and the peak current reached 105 kA. A 0.077 ohm resistor made of coaxial cables with nichrome conductors was included in the circuit to damp the oscillations. The signal for the discharge of this system was given by

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ACCESSION NR: AP4040300

the discharge current of a trigger electrode located 22 cm from the open end of the gun. The gun thus fired when the gas pressure in the vicinity of the trigger electrode reached a certain value dependent on the trigger potential, and by varying this potential the delay between admission of the gas and discharge of the gun could be nicely controlled over a wide range. The azimuthal magnetic field was measured with a 4 mm diameter probe coil housed in a 7 mm diameter glass tube. This probe was located near the wall of the outer electrode and could be positioned anywhere along the length of the gun. High speed photographs were taken through a 4 mm longitudinal slot in the outer electrode extending nearly the full length of the gun. The probe measurements showed that at any instant the magnetic field was constant except in one (and later two) region perhaps 5 cm wide, thus confirming the conclusion of L.C.Burkhardt and R.H.Loveberg (Phys.Fluids 5, 341,1962) that the discharge takes place in a narrow layer. The current layer began at 22 cm from the closed end of the gun and moved toward the open end with the constant velocity 1×10^7 cm/sec until, on coming within about 10 cm of the open end, it increased its velocity to 1.6×10^7 cm/sec. At 3.2 microsec after initiation of the discharge, a second current layer appeared at about 13 cm from the closed end of the gun, short circuiting the electrodes. This second current region remained stationary while the first continued its motion toward the open end of the gun. The high speed photographs confirm

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ACCESSION NR: AP4040300

the behavior deduced from the probe measurements. [Abstracter's note: They are also said to show that a motion of the plasma away from the first current region sets in at about 3 microsec after onset of the discharge, but this important detail was not apparent to the abstracter and may have been lost in reproduction.] The electric and magnetic fields within the gun are calculated, and it is found that the drift velocity of the plasma in the crossed fields is at first about 1.8×10^7 cm/sec toward the open end of the gun. The drift velocity decreases with time and changes sign at 3.2 microsec after onset of the discharge. "In conclusion the authors express their gratitude to K.D.Sinel'nikov, member of the Academy of Sciences of the Ukrainian SSR, and to B.N.Rutkhevich, V.T.Tolok, O.M.Shvets and Ya.F.Volkov for criticism and discussion of the results." Orig.art.has: 8 formulas and 7 figures.

ASSOCIATION: none

SUBMITTED: 25Jun63

DATE ACQ: 19Jun64

ENCL: 00

SUB CODE: ME

NR REF SOV: 002

OTHER:004

Card 3/3

L H: 801-66 EWT(1)/T IJP(c) JGS/GD/AT

ACC NR: AT6020412

(N)

SOURCE CODE: UR/0000/65/000/000/0148/0156

AUTHOR: Zolototrubov, I. M.; Kiselev, V. A.; Novikov, Yu. M.

ORG: none

TITLE: Current distribution in a coaxial plasma gun

SOURCE: AN UkrSSR. Issledovaniye plazmennykh sgustkov (Study of plasma clusters).
Kiev, Naukovo dumka, 1965, 148-156

TOPIC TAGS: plasma gun, plasmoid, high speed photography, *PLASMA DISCHARGE*,
ELECTRODYNAMICS

ABSTRACT: The purpose of this work was to determine the current distribution in a coaxial plasma gun and the electrodynamic forces acting on the plasma. The current distribution was determined by a differential magnetic probe and the measurements were taken at different delays between the initial gas injection and time of the discharge. When this delay was 200-300 μ sec, discharge current formed several sheets arising due to partial current flows at insulation walls. The probe and fast streak photography data showing this effect are given in the text. Evidence of the trapped magnetic field between the current sheets was also found. It was found that for small delay times, only single current sheets are formed and that their velocity drastically increases during the current maximum. In addition to current sheets, observation of plasmoids was made and it was found that their velocities reached several times that

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L H: 801-66

ACC NR: AT6020412

APPROVED FOR RELEASE: 09/17/2001

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of the sheets ($8 \cdot 10^7$ cm/sec) showing that they are not accelerated by the electromagnetic interaction with the current, but rather by the drift-inducing fields. This was further substantiated by observing counter-streaming sheets and plasmoids in another set of experiments. Orig. art. has: 6 figures.

SUB CODE: 20/

SUBM DATE: 11Nov65/

ORIG REF: 002/

OTH REF: 003

Card 2/2 *lgm*

L 43800-66 EWT(1) LJP(c) AT/OD
ACC NR: AT6020414 (N)

SOURCE CODE: UR/0000/65/000/000/0165/0171

AUTHOR: Zolototrubov, I. M.; Kiselev, V. A.; Novikov, Yu. M.; Tolok, V. T.

ORG: none

TITLE: Operation of the coaxial plasma source in a longitudinal magnetic field

SOURCE: AN UkrSSR. Issledovaniye plazmennyykh sgustkov (Study of plasma clusters).
Kiev, Naukovo dumka, 1965, 165-171

TOPIC TAGS: plasma gun, plasma source, plasma magnetic field, plasma dynamics,
LONGITUDINAL MAGNETIC FIELD

ABSTRACT: An attempt to develop a plasma source free of impurities by the use of a coaxial gun in a longitudinal magnetic field is discussed. The plasma gun and its operation is described, its energy source is a battery of condensers (1000 μ f) working at 5 kv, the working gas is hydrogen injected by a fast-acting valve. When the gun is operated in the magnetic field, the discharge current plate appears. This, together with the observation of the plasma ejection velocity, indicates plasma drift typical of crossed electric and magnetic fields. High speed photography reveals that the plasma generated when the magnetic field is applied is much more uniform than in the absence of the field. Spectroscopic analysis shows that the magnetic field inhibits very strongly the appearance of electrode material impurities found in discharges without the external field. It is planned to overcome the insufficient ionization and

Card 1/2

ZOLOTOTRUBOV, I.M.; KISELEV, V.A.; NOVIKOV, Yu.M.

Current distribution in a coaxial plasma gun. Zhur. tekhn. fiz. 35
no.2:253-258 F '65. (MIRA 18:4)

L 41007-66 ENT(1)/T IJP(c) AT/DS

ACC NR: AP6018729

SOURCE CODE: UR/0057/66/036/006/1040/1048

AUTHOR: Zolototrubov, I.M.; Kiselev, V.A.; Novikov, Yu.M.; Ryzhov, N.M.; Tolok, V. T.

ORG: none

TITLE: A coaxial plasma gun in a longitudinal magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 6, 1966, 1040-1048

TOPIC TAGS: plasma gun, hydrogen plasma, contamination, longitudinal magnetic field,

ABSTRACT: In an effort to improve the purity and the uniformity with regard to velocity, density, and total number of particles of the plasma bursts from a coaxial plasma gun, the authors investigated the influence of a longitudinal magnetic field on the performance of the gun. It was anticipated that the rotation of the plasma within the gun, due to the Lorentz force on the radial current in the longitudinal magnetic field, would improve the azimuthal uniformity of the current sheet. The diameters of the inner and outer stainless steel electrodes of the 70 cm long coaxial gun were 3 and 7 cm, respectively. The gas (0.1 cm³ of hydrogen) was admitted through six openings in the inner electrode near its center, and the gun was fired by the 20 kV discharge of a 12 microfarad capacitor. The plasma gun was located in the uniform portion of the field of a 1.4 m long solenoid. The magnetic field rose to its maximum strength of up to 8 kOe in 28 millisecc and subsequently decayed exponentially with a time constant of 72 millisecc. The processes taking place within the plasma gun

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L 41007-66

ACC NR: AP6018729

2
were investigated with the aid of a magnetic probe and by recording the discharge current, and the plasmas ejected from the gun were investigated with an external magnetic probe, a spectrograph, a photomultiplier, a monochrometer with the aid of which the intensities of different spectrum lines were displayed on an oscillograph, and a thermal probe. The rather involved processes that took place within the gun are discussed at some length. The rotation of the plasma gave rise to a magnetic trap within which a considerable portion of the gas was confined. Two plasma bursts were usually produced, but under some conditions it was possible to obtain only one burst containing some 2×10^{16} particles at a density of $2.4 \times 10^{13} \text{ cm}^{-3}$ and moving with a velocity of $3 \times 10^7 \text{ cm/sec}$. The purity of the plasma bursts increased with increasing longitudinal magnetic field strength; at a magnetic field strength of 6.4 kOe there were no lines due to electrode materials in the spectrum, and the lines due to carbon, oxygen, and nitrogen were considerably weaker than in the spectra of plasmas produced without the magnetic field. It is concluded that with the aid of a longitudinal magnetic field one can obtain from a coaxial plasma gun pure high energy plasmas free of slow and contaminated tails, but at the cost of inefficient use of the energy stored in the capacitor bank. The authors thank O.M.Shvets, and Ya.F.Volkov for discussions and criticism. Orig. art. has: 3 formulas and 7 figures.

SUB CODE: 20/ SUM DATE: 26Apr66/ ORIG. REF: 004/ OTM REF: 002

Card 2/2 hs

Kiselev, V. A.

53-4-4/10

AUTHOR: Fridman, G., (Friedmann, H.)

TITLE: The Characteristic Energy Losses of Electrons in a Solid (Kharakteristicheskiye poteri energii elektronami v tverdom tele)

PERIODICAL: Uspekhi Fiz. Nauk, 1957, Vol. 62, Nr 4, pp. 427-442 (USSR)

ABSTRACT: This is a translation carried out by Kiselev, V.A., of the original paper published in "Fortschritte der Physik", 1957, Vol. 5, p 51. The first three chapters deal with the experimental methods, the improvement of the method and with an electrostatic analyzer. Results of Measurements: The survey discusses the spectra of the characteristic losses of those substances which have been investigated independently by several authors. First, the experimental data of the characteristic losses of aluminum are shown in a table. All experimenters observed a sharp and intensive maximum at 14,7 eV and at the multiples of this number. The characteristic spectrum of magnesium contains several discrete multiples of 10,3 eV. Even the four-fold losses (41,5 eV) are still distinctly visible. In the case of beryllium Watanabe and Ruthemann observed a sharp characteristic loss at 19 eV and the three next-higher multiples. In the case of copper no multiple losses and no sharp and intensive maxima were observed. In the case of gold nearly all experimenters observed characteristic losses at 23 and 32 eV. An

Card 1/2

The Characteristic Energy Losses of Electrons in a Solid.

53-4-4/10

increase of the thickness of the layer leads to a considerable shifting of the characteristic maxima. The position of the maxima does not depend immediately upon the energy of the primary electrons. Next, the influence exercised by the structure of the layer, the angular distribution of the characteristically scattered electrons, and the dependence of the intensity of the characteristic losses upon the primary energy is discussed.

Comparison of Results with various Theories: According to a theory developed by Bethe, Bloch and Slater the electron gives one of the possible excitation energies to a single electron of the solid on the occasion of a nonelastic collision. Another model, developed by Pines and Bohm, investigates the excitation of the collective oscillations of the density of the free electrons by the primary electrons. There are 11 figures, 6 tables and 24 non-Slavic references.

AVAILABLE: Library of Congress

Card 2/2

68618

5.2400 (0)

5(4)
AUTHORS:Margolis, L.Ya., Kiselev, V.A.S/020/60/130/05/032/061
B004/B014

TITLE:

Isotope Exchange of Oxygen on Oxidation Catalysts

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 5, pp 1071-1073
(USSR)

ABSTRACT:

The authors refer to the publications dealing with the aforementioned problem and quote G.K. Boreskov et al. (Ref 1). It is noted that the effect of additions upon the isotope exchange of oxygen on catalysts has not yet been studied. The present paper is intended to close this gap. Silver and copper oxide were chosen as typically oxidizing catalysts. The silver powder was doped with AgCl or AgJ, whose even distribution over the surface was radiometrically checked by means of Cl^{34} and J^{131} . CuO was doped with Cr_2O_3 , Bi_2O_3 , Li_2O , or $CuSO_4$. The experiments were made at 1 torr. The content of O^{18} was recorded by a mass spectrometer. On the basis of the variation in concentration of O^{18} and $O^{16}O^{18}$ it was possible to check the rate of the homolytic exchange reaction $O_2^{18} + O_2^{16} \rightleftharpoons 2O^{16}O^{18}$. Figure 1 illus-

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Isotope Exchange of Oxygen on
Oxidation Catalysts

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S/020/60/130/05/032/061
B004/B014

lysts can be regulated by additions. There are 4 figures, 2
tables, and 4 Soviet references. ✓

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of
Physical Chemistry of the Academy of Sciences, USSR)

PRESENTED: July 9, 1959, by V.I. Spitsyn, Academician

SUBMITTED: July 6, 1959

Card 3/3

23741

S/089/61/010/006/006/011
B136/B201

26.2541

AUTHOR: Glazunov, M. P., Grivkova, A. I., Zaytsev, B. A., and
Kiselev, V. A.TITLE: Half-life of Cs¹³⁷

PERIODICAL: Atomnaya energiya, v. 10, no. 6, 1961, 622 - 623

TEXT: The isotope Cs¹³⁷ is widely used as gamma source in medicine and technology owing to its convenient half-life, its simple decay scheme, and its high yield. In spite of numerous studies, the half-life has been so far determined only within the range of 26.6 - 37 years. D. Wiles, R. Tomlinson (Ref. 7: Phys. Rev., 99, 188 (1955)), and F. Brown, G. Hall, A. Walter, J. Inorg. and Nucl. Chem., 1, 241 (1955)) have determined the decay rate of a given amount of Cs¹³⁷; the same method has been applied here using an MC-4 (MS-4) mass spectrometer for determining the Cs¹³⁷ amount and a gas flowmeter for the measurement of the activity. The Cs¹³⁷ preparation was separated from uranium fission products by the ferrocyanide method, and was pure to the extent that only 0.01% of the total gamma

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Half-life of Cs¹³⁷

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B136/B201

activity was due to impurities. The stock solution of cesium chloride was diluted with 0.01% potassium chloride solution to prevent cesium adsorption on the walls of the polyethylene container. The specific activity was then determined by a flowmeter. When determining the absolute activity corrections were taken into account for the absorption in the base, the electron scattering loss, the conversion electrons of Ba^{137m}, and the presence of Cs¹³⁴. Due to beta decay, Cs¹³⁷ passes over to Ba^{137m} by 92% (excited state) and to Ba^{137m} by 8% (ground state). The excited state has a lifetime of 2.6 min. The correction of the final result due to the conversion electrons of Ba^{137m} is considerable. The value 11.4% was chosen from the total conversion coefficients (9.8 - 11.8%) given in the literature. The mass-spectroscopic analysis yielded $49.36 \pm 0.09\%$ Cs¹³³, $0.07 \pm 0.01\%$ Cs¹³⁴, $14.01 \pm 0.07\%$ Cs¹³⁵ and $36.56 \pm 0.08\%$ Cs¹³⁷. The absolute concentration of the isotopes was determined by the method of isotopic dilution. The number of Cs atoms per ml of solution was $N = 951.10^{15} \pm 1.5\%$, the half-life was found to be $T = 29 \pm 1$ years by way of the decay constant from the known concentration and activity in the

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Half-life of Cs¹³⁷

²³⁷⁴¹
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B136/B201

stock solution. V. N. Komarov is thanked for having participated in the mass-spectroscopic measurements. There are 1 table, and 11 references; 1 Soviet-bloc and 10 non-Soviet-bloc. The most important reference to English-language publications reads as follows: D. Strominger, Y. Hollander, G. Seaborg, Rev. Mod. Phys., 30, no. 2 (1958). "Table of Isotopes".

SUBMITTED: January 9, 1961

Card 3/3

GLAZUNOV, M.P.; KISELEV, V.A.; LITVAKOV, V.L.

Doubling of the mass spectrum of cesium. Zhur. anal. khim. 16 no.4:498
Jl-Ag '61. (MIRA 14:7)

I. Institute of Physical Chemistry, Academy of Sciences U.S.S.R.,
Moscow.

(Cesium—Spectra)

TSVETAYEV, A.A.; GLAZUNOV, M.P.; KISELEV, V.A.; ALEKSEYEV, L.A.;
CHUZHKO, R.K.

Determination of the activation energy of vaporization from
various faces of a zinc single crystal. Zhur.fiz.khim. 35
no.12:2800-2801 D '61. (MIRA 14:12)

1. Akademiya nauk SSSR, Institut fizicheskoy khimii.
(Evaporation) (Zinc crystals)

L 14528-66
ACC NR: AP6005471

SOURCE CODE: UR/0368/66/004/001/0037/0045

AUTHOR: Kiselev, V. A.

ORG: none

TITLE: Modes of open resonators with an optically nonuniform region between the mirrors

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 1, 1966, 37-45

TOPIC TAGS: resonator, laser theory, laser optics

ABSTRACT: The author solves the problem of resonator modes for the case where there is a region of optical nonuniformity between the mirrors. The two-dimensional problem of modes in the quasi-geometric approximation is considered where all characteristic dimensions of the problem are considerably greater than the wavelength. An open resonator is studied which consists of two cylindrical mirrors with radii of curvature and dimensions which differ for the general case. It is assumed that the difference between the indices of refraction for the medium filling the resonator and for the nonhomogeneous region is so small that reflection and refraction at the boundary of the nonhomogeneous region may be disregarded. Within the framework of

UDC: 535.89

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L 14528-66

ACC NR: AP6005471

the quasi-geometric approximation, the nonhomogeneous region behaves as if it were an infinitely thin ideal lens. The center of this lens may be displaced both with respect to the optical axis of the mirrors and with respect to the center of the resonator. The lens may be either converging or diverging. The scalar form of the Huygens principle is generalized to the case of a nonhomogeneous medium which satisfies these conditions. A specific form of the generalized Huygens principle is used as a basis for derivation of an integral equation of modes for symmetric resonators. The variational principle is given which is satisfied by the eigenfunctions of this equation. Conditions are given under which this variational principle may be used for finding the modes. Systems with "small" modes are considered in which the field is concentrated in a region which is small with respect to the dimensions of the mirrors due to the focusing action of the curved mirrors and the nonhomogeneous medium. The author analyzes conditions which must be satisfied by the parameters of the resonator and nonhomogeneous region to produce a resonance system with small modes and correspondingly small diffraction losses. A method is proposed for determining the number of small modes in this type of a system. "In conclusion I should like to thank Professor V. A. Fabrikant for interest in this work, several discussions and valuable advice." Orig. art. has: 3 figures, 24 formulas. [14]

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ATD PRESS: 4197

Card 2/2

L 22520-66 EWT(1) IJP(c)
ACC NR: AP6010446

SOURCE CODE: UR/0368/66/004/003/0230/0235

AUTHOR: Kiselev, V. A.

ORG: none

31
B

TITLE: Small mode of nonsymmetrical resonators with a nonhomogeneous field between lenses

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 3, 1966, 230-235

TOPIC TAGS: resonator, optic lens, integral equation, optic analysis

ABSTRACT: On the basis of Huygens principle for an optically nonhomogeneous medium which holds true in a quasi-geometrical approximation in a two-dimensional case, an integral equation is analytically obtained and solved for small modes established on each of the mirrors of a nonsymmetrical resonator, with lenses created optically between them by a nonhomogeneous field. The results of the plane problem of modes were generalized for the spatial case of small modes of "rectangular" symmetry. The author wishes to thank Prof. V. A. Fabrikant for discussing this study. Orig. art. has: 1 figure, 16 basic formulas. [Based on author's abstract.]

[NT]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 002/

Card 1/1 BLG

UDC: 535.89

L 00812-67 EMT(1)
ACC NR: AP6027895

SOURCE CODE: UR/0368/66/005/001/0023/0030

AUTHOR: Kiselev, V. A.

ORG: none

TITLE: Radially symmetrical small modes of resonators with an optically nonhomogeneous region between mirrors

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 1, 1966, 23-30

TOPIC TAGS: resonator, mirror, resonator mirror, lens, integral equation, quasigeometric approximation

ABSTRACT: An attempt has been made to analyze small modes of resonators mounted on the mirrors of an open resonator with a lens between them and created by an optically nonhomogeneous region. The corresponding integral equation was obtained and solved in the radially symmetrical case based on the Huygens principle for an optically, nonhomogeneous medium valid in quasi-geometrical approximation. The author thanks Professor V. A. Fabrikant for his attention to

Card 1/2

L 00812-67

ACC NR: AP6027895

this study. Orig. art. has: 3 figures and 27 formulas. [Based on author's abstract]

[NT]

SUB CODE: 20/ SUBM DATE: 28Apr65/ ORIG REF: 004/

Card 2/2 vlr

UDC: 535.12